



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/567,414	02/06/2006	Christian Krauss	B54	5181
7590 12/03/2007				
Joan Pennington 535 North Michigan Avenue Unit #1804 Chicago, IL 60611			EXAMINER LE, DAVID D	
			ART UNIT 3681	PAPER NUMBER
			MAIL DATE 12/03/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/567,414

Applicant(s)

KRAUSS ET AL.

Examiner

David D. Le

Art Unit

3681

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 February 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>02/06/06</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This is the first Office action on the merits of Application No. 10/567,414, filed on 06 February 2006. Claims 1-16 are pending.

Documents

2. The following documents have been received and filed as part of the patent application:
 - Information Disclosure Statement, received on 02/06/06

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. **Claims 1-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.**

Claims 1-13:

- Claims 1-13 provide for the method/process of controlling a twin-clutch transmission, but, since the claims do not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a method/process

without any active, positive steps delimiting how this method/process is actually practiced.

- Claims 1-13 is rejected under 35 U.S.C. 101 because the claimed recitation of a method/process, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

Claim 4:

- Line 3 recites the limitation “a predetermined upper limit”. It is unclear whether this newly recited “a predetermined upper limit” is different from the one, which is first recited on line 9 of claim 1.
- Line 4 recites the limitation “the operating condition”. There is insufficient antecedent basis for this limitation in the claim.

Claim 5:

- Lines 2-3 recite the limitation “wherein the first clutch is operated permanently with a slight slip.” This limitation appears to be inaccurate because, as disclosed on page 13, lines 9-10, of the present specification, the first clutch does operate in completely closed state with no slip.

Claim 8:

- Line 3 recites the limitation "the magnitude of the slip". There is insufficient antecedent basis for this limitation in the claim.
- Lines 2-4 recite the limitation "wherein a torque transmitted by the first clutch is derived from the magnitude of the slip occurring and/or from the actuation pressure of the clutch." It is unclear whether the recitation "from the actuation pressure of the clutch", followed the "and/or", should always be included as part of the claimed limitation.

Claim 10:

- Line 2 recites the limitation "a reference rotary speed". It is unclear whether this newly recited "a reference rotary speed" is different from the predetermined reference rotary speed, which is first recited on lines 3-4 of claim 9.

Claim 12:

- Line 2 recites the limitation "a reference rotary speed". It is unclear whether this newly recited "a reference rotary speed" is different from the predetermined reference rotary speed, which is first recited on lines 3-4 of claim 9.
- Line 3 recites the limitation "its". It is unclear what "its" is referring to.

Claim 14:

- Lines 10-11 recite the limitation “a second transmission path”. It is unclear whether this newly recited “a second transmission path” is different from the different transmission paths, which is first recited on line 4 of the claim.

Claim 16:

- Line 2 recites the limitation "the transmission ratios". There is insufficient antecedent basis for this limitation in the claim.
- A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claim 16 recites the broad

recitation "less than 2.0" and the claim also recites "preferably less than 1.5"

which is the narrower statement of the range/limitation.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. **Claims 1-10 and 13-15, as best understood, are rejected under 35 U.S.C. 102(b) as being anticipated by U. S. Patent No. 6,463,821 to Reed, Jr. et al. (hereinafter referred to as Reed).**

Claims 1-10 and 13-15:

Reed (i.e., Figs. 1-4 and 22-27; column 3, line 63 - column 16, line 33) discloses a method of controlling transmission having a dual clutch system comprising:

- A first clutch (i.e., Fig. 1, element 20);
- A second clutch (i.e., Fig. 1, element 22);
- An engine drive shaft (i.e., column 6, lines 59-60);
- A first input shaft (i.e., Fig. 1, element 14);
- A second input shaft (i.e., Fig. 1, element 16);
- An output shaft (i.e., Fig. 1, element 18);

- A plurality of transmission paths (i.e., Fig. 1, being the gear pairs for first -sixth gears);
- A transmission controller (i.e., Fig. 22, element 320);
- Wherein the transmission controller controls (320) engaging operations of the first and second clutches (i.e., column 12, line 29 - column 16, line 36);
- Wherein torque is transmitted from the engine drive shaft to the output shaft (18) by way of the first clutch (20) and a first transmission path (i.e., Fig. 1, being the gear pair for the first gear) of the plurality of transmission paths (i.e., column 7, lines 44-47; column 12, line 31 – column 16, line 36);
- Wherein the second clutch (22) is at least partially closed in order to transmit an additional torque from the engine drive shaft to the output shaft (18) by way of a second transmission path (i.e., Fig. 1, being the gear pair for the second gear) of the plurality of transmission paths when the torque transmitted by way of the first clutch reaches a predetermined upper limit (i.e., column 12, line 31 - column 16, line 36);
- Wherein the first clutch (20) and the second clutch (22) are operated in a slip mode (i.e., column 12, lines 35-37);
- Wherein a parallel activity of the first and second transmission paths is maintained unit switching over from the first transmission path into a new transmission path of the plurality of transmission paths (i.e., column 12, line 31 - column 16, line 36);

- Wherein a rotary speed of at least one of the clutches is regulated in accordance with a predetermined reference rotary speed and in accordance with predetermined regulating parameters (i.e., column 12, line 31 - column 16, line 36);
- Wherein reference of rotary speeds for both clutches correspond to each other and the regulating parameters are different (i.e., column 12, line 31 - column 16, line 36); and
- Wherein the transmission commonly includes two different output gears for passing torque into an axle transmission.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. **Claims 11 and 12, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Reed, Jr. et al.**

Claims 11 and 12:

Reed discloses the limitations as set forth in paragraph 6 above. Regarding claims 11, 12 and 16, Reed does not explicitly disclose wherein the reference rotary speed for

the second clutch corresponds/equals to the reference rotary speed of the first clutch plus a difference corresponding to the desired torque distribution.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Reed such that the reference rotary speed for the second clutch corresponds/equals to the reference rotary speed of the first clutch plus a difference corresponding to the desired torque distribution, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

9. Claim 16, as best understood, is rejected under 35 U.S.C. 103(a) as being unpatentable over Reed, Jr. et al.

Claim 16:

Reed discloses the limitations as set forth in paragraph 6 above. Regarding claim 16, Reed does not explicitly disclose wherein a quotient of transmission ratios between the first and the second gear and between the second and the third gear is less than 2.0 or less than 1.5.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Reed such that a quotient of transmission ratios between the first and the second gear and between the second and the third gear is less than 2.0 or less than 1.5, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Budal et al. (U. S. Patent No. 7,094,176) teaches a method for carrying out gear shifting in a twin-clutch gearbox, as shown in Figs. 1-9.
- Katakura (U. S. Patent No. 7,025,707) teaches a multistage automatic transmission, as shown in Fig. 2.
- Buchanan et al. (U. S. Patent No. 6,887,184) teaches a method of controlling a dual clutch transmission, as shown in Fig. 1.
- Sperber et al. (U. S. Patent No. 6,209,406) teaches a dual clutch transmission, as shown in Fig. 1.

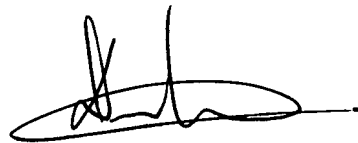
11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David D. Le whose telephone number is 571-272-7092. The examiner can normally be reached on Mon-Fri (0700-1530).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles A. Marmor can be reached on 571-272-7095. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Application/Control Number:
10/567,414
Art Unit: 3681

Page 11

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A handwritten signature in black ink, appearing to read 'David D. Le', with a horizontal line extending to the right.

David D. Le
Primary Examiner
Art Unit 3681
11/27/2007

ddl